AMENDMENT B
(37 C.F.R. 1.116)

IN THE CLAIMS:

Please amend claims 1 and 21 in accordance with 37 C.F.R. 1.121.

Please cancel claim 9-20 and 29-50 without disclaimer to their content and without prejudice to their subsequent reintroduction into this or a future patent application.

The claims are attached herein on separate sheets.

AMENDMENT TO CLAIMS

[Deleted material is struck-through and added material is underlined]

1. (Currently Amended) An electrolyzer for the separation of water comprising:

an aqueous electrolytic solution comprising water, the aqueous electrolyte solution partially filling ~~a non-vented~~ **an** electrolysis chamber such that a gas reservoir region is formed above the aqueous electrolyte solution, said chamber being adapted to be installed in a closed pressurized piping system;

port means for adding the aqueous electrolytic solution to the chamber during operation of said electrolyzer when said electrolyzer is installed and used in said closed pressurized piping system;

two **flat** principal electrodes comprising an anode electrode and a cathode electrode, the two principal electrodes being at least partially immersed in the aqueous electrolyte solution;

one or more **flat** supplemental electrodes at least partially immersed in the aqueous electrolyte solution and interposed between the two principal electrodes wherein the two principal electrodes and the one or more **flat** supplemental electrodes are held in a fixed spatial relationship, and **wherein the one or more flat supplemental electrodes** are not connected electrically to a power source;

each adjacent electrodes being spaced-apart from each other by a distance of about 0.15 inches to about 0.35 inches;

for each adjacent electrodes, one is made substantially of nickel and the opposing electrode is made substantially of stainless steel;

~~heat sink means in the form~~ one or more external fins **serving as a heat sink** for removing heat from the electrolyzer; and

said electrolyzer being adapted to separate the water such that its constituents of H and O are not recombined and instead produced jointly to make a combustible gas composed of combinations of hydrogen and oxygen atoms structured according to a general formula H_mO_n wherein m and n have null or positive integer values with the exception that m and n can not be 0 at the same time,

wherein said combustible gas has a varying energy content depending on its use.

2. (Original) The electrolyzer according to claim 1, wherein said combustible gas contains atomic hydrogen.

3. (Original) The electrolyzer according to claim 1, wherein said combustible gas contains atomic oxygen.

4. (Original) The electrolyzer according to claim 1, wherein the combustible gas instantly melts solids.

5. (Original) The electrolyzer according to claim 1, wherein the combustible gas can be used as a fuel without the need of atmospheric oxygen.

6. (Original) The electrolyzer according to claim 1, wherein the combustible gas can bond to combustible fuels via magnetic induction.

7. (Currently Amended) The electrolyzer according to claim 1, wherein said combinations of hydrogen and oxygen atoms structured according to the general formula H_mO_n are clusters.

8. (Original) The electrolyzer according to claim 1, wherein when said combustible gas is used as an additive to a combustible fuel, a combustion of said fuel having said additive results in an exhaust emission having less pollutants than a combustion of said fuel alone.

9. – 20. (Canceled)

21. (Currently Amended) An on-demand self-producing combustible gas electrolyzer system for the separation of water into a combustible gas for use in combustion equipment, such as welder and combustion engines, the electrolyzer system comprising:

an electrolyte reservoir having a top portion adapted to contain a generated combustible gas and a bottom portion containing electrolytic fluid comprising water;

~~a non-vented~~ electrolyzer, said electrolyzer being installed in a closed pressurized portion of the system;

an electrical conductor contained within the electrolyzer;

a pump fluidly interposed between the bottom of the electrolyte reservoir and the electrolyzer wherein the pump draws electrolytic fluid from the electrolyte reservoir and pumps it to the electrolyzer;

a radiator fluidly connected to and interposed between the electrolyzer and the electrolyte reservoir, the radiator adapted to cool the generated combustible gas before returning to the top portion of the electrolyte reservoir;

an interstitial space within the reservoir above the electrolytic fluid in the top portion of the electrolytic reservoir wherein the generated combustible gas accumulates; and

at least one dryer/filter means through which the generated combustible gas passes before being drawn as needed for use,

wherein the electrolyzer is adapted to separate water such that its constituents of H and O are not recombined and instead produced jointly to make a combustible gas composed of combinations of hydrogen and oxygen atoms structured according to a general formula H_mO_n wherein m and n have null or positive integer values with the exception that m and n can not be 0 at the same time, and

wherein said combustible gas has a varying energy content depending on its use.

22. (Original) The electrolyzer system according to claim 21, wherein said combustible gas contains atomic hydrogen.

23. (Original) The electrolyzer system according to claim 21, wherein said combustible gas contains atomic oxygen.

24. (Original) The electrolyzer system according to claim 21, wherein the combustible gas instantly melts solids.

25. (Original) The electrolyzer system according to claim 21, wherein the combustible gas can be used as a fuel without the need of atmospheric oxygen.

26. (Original) The electrolyzer system according to claim 21, wherein the combustible gas can bond to combustible fuels via magnetic induction.

27. (Previously Presented) The electrolyzer system according to claim 21, wherein said combinations of hydrogen and oxygen atoms structured according to the general formula H_mO_n are clusters.

28. (Original) The electrolyzer system according to claim 21, wherein when said combustible gas is used as an additive to a combustible fuel, a combustion of said fuel having said additive results in an exhaust emission having less pollutants than a combustion of said fuel alone.

29. – 50. (Canceled)